DOCUMENT RESUME

ED 389 865 CE 070 339

AUTHOR	Sellin, Burkart
TITLE	Vocational Training in Europe: Towards a Modular Form? Discussion Paper. CEDEFOP Panorama. First Edition.
INSTITUTION	European Centre for the Development of Vocational Training, Berlin (Germany).
PUB DATE	Aug 94
NOTE	22p.
PUB TYPE	Viewpoints (Opinion/Position Papers, Essays, etc.) (120)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Academic Standards; Adult Education; Continuing Education; Coordination; *Educational Change; *Educational Objectives; Foreign Countries; *Instructional Design; *Learning Modules; Secondary Education; Student Certification; *Systems Approach; *Vocational Education
IDENTIFIERS	*European Community

ABSTRACT

Discussion of whether and to what extent initial vocational training and adult education in European Community (EC) member countries can assume a modular form hinges on the issue of the module as an organizational principle. In such a context, modules are viewed not as closed teaching and learning units but rather as integral parts of a more extensive qualification or group of skills in the form of vocational training that is recognized by society and/or the labor market. From the participant's perspective, organizing vocational training in modules means that training can be tailored to individual needs. From the training provider's perspective, learning organized in modules is meaningful only if the modules have been clearly related to some overall qualification or recognized standard. Studies of modularization of education in six EC member states (Spain, France, Germany, Luxembourg, the Netherlands, and Scotland) have confirmed that, to date, the concept of modular instruction has only been applied in isolated cases or with regard to certain target groups or problem areas. It is critical that the many unsystematic approaches to modularization be standardized and that modules be certified if they are to be transferred to standard training and further training systems and disseminated throughout the EC. (MN)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

CEDEFOP panorama
ED 389 865

Vocational training in Europe: Towards a modular form?

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CE070337

BEST COPY AVAILABLE

CEDEFOP panorama

Vocational training in Europe: Towards a modular form?

Burkart Sellin
CEDEFOP Berlin

August 1994

1st edition, Berlin 1994

Edited by:
CEDEFOP- European Centre for the Development of Vocational Training
Jean Monnet House,
Bundesallee 22, D-10717 Berlin
Tel.: 49-30+88 41 20
Fax: 49-30+88 41 22 22
Telex: 184 163 eucen d

The Centre was established by Regulation (EEC) No 337/75 of the Council of the European Communities.

Discussion paper

Cataloguing data can be found at the end of this publication.

Berlin: CEDEFOP - European Centre for the Development
of Vocational Training, 1994

1st edition, Berlin 1994

Reproduction in whole or in part of the contents of this publication
is authorized, provided that the source is acknowledged.

Printed in Germany

Vocational training in Europe: Towards a modular form?

- discussion paper -

CONTENTS Page

Introduction

1. Clarifying the term "module" and its area of application 2

2. The module seen from the participant's perspective 4

3. The module from the perspective of the training centre/provider 4

4. The modular system - its justification and aims 5

5. Developing a "European module" 8

6. Currents approaches in Member States 10

7. Standardizing and certifying modules 12

8. The modular system and continuing training 13

9. Concluding remarks and summary 14

Introduction

The term "modularisation" is a provocative one for some, while others see in it the opportunity to reform vocational training and renew curricula in both initial and continuing vocational training given the rapidly changing demands of training participants, companies and the labour market. Does the modular system make vocational training more efficient, less centralized and more capable of catering for individual needs as its protagonists claim? What are the preconditions for building upon initial attempts in this direction and for promoting their incorporation in the existing vocational training systems in the EU Member States? This paper attempts to find answers to questions such as these.

1. Clarifying the term "module" and its area of application

The term "module" refers to part of a building, a system or product and is originally a technical term. A system is composed of a multitude of modules or elements each of which is in itself indispensable and contributes to the operation of the entire system. In the world of occupational educational science the term module is both an organizational principle and a didactic or methodological principle which helps structure a longer-term training course, a curriculum or programme in clearly defined individual parts, i.e. in teaching and learning units. Discussion on whether and to what extent initial and continuing vocational training and adult education can take a modular form, hinges on the issue of the module as an organizational principle.

In this context the module is not viewed as a closed teaching and learning unit but rather as a step in a certain direction or as an integral part of a more extensive qualification or group of skills in the form of (vocational) training which is recognized by society or the labour market. Any given teaching and learning programme can be subdivided into a certain number of modules. Alternatively the module may refer to a more or less clearly defined part of a qualification in a certain area which can be coupled with other modules in a variety of ways depending on individual needs in order

to attain a qualification which is recognized by the state or by a company. In other words, a module imparts certain capabilities and the required knowledge, practical skills and practical experience which may be linked to assessment or certification.

Modules are based on

- individual, clearly defined learning goals and their related contents and methods;

- a closed concept which generally is part of a longer-term training course although this must not necessarily be the case;

- largely independent performance assessment/learning evaluation of successive or parallel modules culminating in certain instances with certification of part of an overall qualification;

- a lack of restriction concerning duration and place of study making for more flexible use and placement in line with the participant's needs and organizational possibilities.

Structuring the content by topic usually takes the form of differentiated organization of the individual subjects: qualified teachers and trainers impart knowledge and capabilities. Generally a module covers a number of subjects, i.e. several subject areas even if within a certain subject area differentiated learning units of varying depth and breadth are generally the didactic principle. This paper will not examine such cases.

Module in the sense used here means ideally:

- that different subjects, teaching and learning forms, e.g. theory learning, practical exercises and learning practice are bundled in such a way over a predetermined period of time to create a closed unit and

- that this unit pursues a particular learning goal and/or imparts certain capabilities in a quality which can be assessed.

2. The module seen from the participant's perspective

The organization of vocational training in modules means that the training offer can be tailored to individual needs in line with:

- prior learning and/or occupational experience of the participant;

- the time (s)he has available during employment or other working situations.

The opportunities to tailor the organization and timing of courses to individual needs require:

- that capabilities, inclinations and timing are discussed and fixed at the beginning of the course through the provision of intensive vocational guidance, counselling and information by counsellors and training providers;

- that the teachers and trainers focus attentively on the needs and learning progress of each participants and are in a position to deal with heterogenous groups and participants of different ages, prior education, occupational experience and differing personal characteristics;

- that the training provider must show a high degree of flexibility with regard to organization and holding the courses without putting quality at risk.

3. The module from the perspective of the training centre/provider

Modules are to be viewed clearly in relation to the overall qualification or the recognized standard which consists of a certain number of modules. This means that learning organization in the module is only meaningful if the recognized standard and the recognized qualification have been clearly and unequivocally determined as a whole. In other words, teachers and trainers, participants and those requesting such qualifications must be aware of all the elements of the system and their aims. At the same time, this recognized qualification must be classified or

classifiable in relation to the overall structure of qualifications in the education and training system in horizontal and vertical terms as defined at regional, national and Community level.

4. The modular system - its justification and aims

The issue of a modular system of vocational training has recurrently been the focus of attention in recent years without, however, with few exceptions, culminating in an overall general implementation of the concept within the national education and training systems. To date the concept has only been applied in isolated cases or with regard to certain target groups or problem areas. Throughout the Community the introduction of the modular system has not gone beyond the pilot model or that of sporadic innovation. Spain and the United kingdom seem to be the exceptions to this as here where training is the responsibility of the employment bodies, since the beginning of the 90s short-term modules and/or courses have been organized. We shall return to this later in the paper (See Section 5).

Since the beginning of the 70s the International Labour Organization (ILO) in Geneva in view of its task to support the industrialization and development of the Third World, has carried out a great deal of research to design and promote use of qualification modules (modules of employable skills, MES)[1]. The material produced by the vocational training division of the ILO during this project may also be of aid to protagonists and curriculum designers in highly industrialized countries in helping them to design their own concept in line with the prevailing conditions in their specific countries.

Prospects of broader and more systematic implementation of modular concepts have recently improved concomitant with current debate on necessary and long-overdue systematization of continuing vocational training.

The systematization of continuing training including retraining is long overdue on account of three major

---

[1] See, in particular, Chrosciel, E. and Plumbridge, W.; "Handbook of Modules of Employable Skills and Training", ILO (Ed.), Geneva 1992

challenges:

- the constantly accelerating pace of structural change in industry and the economy[2], which is compelling increasing numbers of workers to gain new qualifications and to retrain;

- demographic trends, which has already led to a lack of qualified young skilled workers and which will become more accentuated. This will force companies to make greater efforts in training and retraining the existing labour force;

- the increasing social and economic exclusion of an increasing number of what are termed problem groups on the labour market which have inappropriate qualifications or who are personally, ethnically or socially disadvantaged.

The new orientation required in this context in relation both to labour market policies and vocational training policies is in full swing and this should led to a closer linkage of an active labour market policy which is more forward planning with technological, structural, educational and vocational training policies so that:

- job creation schemes can be more closely linked to training projects,

- whole companies may be set up with the prime aim of maintaining and delivering new skills in the face of economic instability and structural change. Here the key word is: training and employment companies, social companies; the combination of work and learning in special work and training contracts etc.;

- state subsidies for local employment initiatives, business start-ups, economic, social, ecological and cultural activities which generally are linked to skills acquisition, retraining and further training.

In the EU Member States there exists a whole spectrum of

---

[2] European Communities - Commission: "Growth, Competitiveness, Employment: The challenges and ways forward into the 21st century - White Paper", Luxembourg 1993

different approaches based on:

- existing institutional organizational structures and spheres of responsibility in vocational training;

- economic and structural problems which impede or prevent the transition of young people from general education upon completion of compulsory schooling to vocational training and/or working life;

- the needs of the unemployed or those in danger of becoming unemployed with regard to retraining, further and continuing training;

- the need to promote the reintegration of mothers and/or fathers in to working life after caring for their children.

Internal company vocational training activities, continuing training specific to certain economic sectors and transcompany continuing training of skilled workers is witnessing a boom in the face of increasing pressure of competition at European and international level and the related development of new products to satisfy increasingly differentiated and changing customer demands and quality awareness.

The European norms on quality management and quality assurance (ISO 9000-1 - ISO 9000-4[3]) are increasingly being applied to company internal and external training courses. These norms which are recognized and developed through all of Europe oblige the provider of training to systematize and structure transparently the courses and curricula which may led to the creation of a modular system. This obligation the companies enter into and the compulsion to attain a suitable cost/benefit ratio in view of increasing international competition, should increase rationalization and systematization of the courses in order to guarantee their transferability to other companies, company departments and to a variety of target groups and sectors. Modularisation on the basis

---

[3] EN ISO 9000-1 to 9000-4: "Norms for quality management and quality assurance/QM-Report", trilingual edition (DE, EN, FR), Ed.: DIN Deutsches Institut für Normung e.V., Beuth Verlag, 10772 Berlin

of varying concepts and forms should become the rule rather than the exception in the foreseeable future.

Distance learning and self study after work or at the workplace also results in modularisation based on suitably structured teaching units using modern information and communication technologies. Multi-media applications and interactive learning using personal computers at the workplace or at home permit broad and efficient use of learning units organized in a modular way and a degree of custom-designed teaching and tutoring hitherto unthinkable.

Suitable teaching and course programmes have a modular structure and can be mixed and bundled to suit individual interests and needs. These technologies open the door for a number of opportunities to improve the training and further training of individuals with health impairments, physical and mental handicaps.

5. Developing a "European module"

Building upon the many unsystematic approaches to modularisation in the various Member States and in a European comparison is an urgent task if they are to be transferred to the standard training and further training systems and to be disseminated.

As a number of research and development activities in EU programmes has shown, it still seems premature to envisage immediate development of a European module. (See a number of projects under the PETRA II, FORCE and Euroform programmes).

What seems prerequisite is a common agreement on:

- European vocational and training standards/minimum requirements,

- a universally accepted structure of training levels and

- occupational categories as a common reference framework.

This assumes however that institutional structures and

the organizational and political framework, e.g. the involvement of the social partners and competent government bodies/public vocational training organizations, permit consensus. Joint social, educational and vocational training policies capable of setting such minimum standards are a prerequisite for successful development of a European module. In the absence of this, these should be only of a supplementary nature to ensure the mobility and cooperation of skilled workers in a European context and to promote their language, communication and specialized skills. Those involved to date in developing a European module have limited themselves to this.

The social dialogue which is going on throughout Europe at interprofessional level must be matched with similar dialogue at sectoral level for the various training levels. To date initial attempts have been made to achieve this. Only when consensus has been reached on the basics of vocational training, occupational requirements and learning goals, can learning units be developed through bilateral, multilateral and European cooperation and are there prospects of these being incorporated in the national training systems.

The major difficulty in extending approaches to a transnational development of the module (see the Euroform initiative of the European Social Fund, which provided extensive support for the "Euroqualifications" project)[4] stress that current project-specific approaches cannot be maintained in the long term or transferred to the standards training systems in the Member States involved.

As long as this transferability to the existing training systems is not guaranteed and is difficult to guarantee for the reasons cited above, those involved in such partner projects will usually be compelled to reinvent the wheel and roll the stone up the hill again. Euro-modules as closed system units continue to remain theoretical, they are put into practice at most as

---

[4] See, Equipe permanents d'Assistance Technique Transnationale (EPATT): Euroqualification, Info 1, Brussels 1993 and BIBB (Ed.): EUROFORM-inform 1-94

methodological and didactic learning units but not as independent system elements.

6. Current approaches in Member States

Reports[5] on approaches in six Member States have been drawn up, focusing on the question of modularisation of initial vocational training. Based on study of modular forms in Spain, France, Germany, Luxembourg, the Netherlands and Scotland (UK) the authors reached the conclusion that both within the Member States and in comparing States, approaches differed greatly even when the concept was attributed only four essential characteristics:

a) modules are teaching and learning units of limited duration;

b) modules are closed and autonomous units both with regard to operation and assessment;

c) modules may be taught or learned in a variety of sequences and forms;

d) modularisation implies a certain restructuring of the curriculum.

Ad a) Scope

The duration of modules vary greatly from approx. 20-30 teaching hours to over 1 000 (Spain) or from 1 - 2 weeks to one year. Most of the modules examined were located at the bottom end of this scale. The Scottish "National Council of Qualifications" modules and the French modules of "cumulative units" are limited to 40 hours. In the Netherlands within short-term school vocational training (KMBO) units last 4 - 6 weeks or a maximum of 2 - 3 months. The duration, particularly with regard to measures for young people leaving school without completing their education, what are termed disadvantaged students/trainees, depends on the learning abilities of the participants and vary in line with

---

[5] Raffe, David et al.: Modularisation in initial vocational training: Recent developments in six European countries, published by the Centre for Educational Sociology at the University of Edinburgh, June 1992

their learning progress. This flexibility is regarded as one of the strengths of modularisation and is often cited[6] as the main reason for their introduction.

Ad b) The closed nature of modules

Essentially every module can be regarded as a closed unit although teaching usually is given in the form of module groups of clusters which may also be tailored to specific needs.

Assessment of learning progress and certification usually takes place during or at the conclusion of the module. More often the decisive "final examination" is held at the end of a whole cluster or curriculum which, as in France, the Netherlands, Germany or Luxembourg is linked to access to recognized occupational and training standards. In Scotland and in Spain the closed modules are the first phase of induction and learning with regard to a workplace or a particular occupational activity.

Ad c) Opportunities for combining modules

While in Spain and Scotland modules may be combined in a variety of ways this is generally not the case in the other countries surveyed. In the latter they are standard elements of a closed programme. In addition, in a number of countries there are additional modules which may be taken on a voluntary basis and which supplement the basic curriculum and deal in greater detail with individual aspects although the curriculum has not necessarily a modular form. They focus on certain skills and capabilities in new or supplementary areas or in upgrading skills and knowledge. In certain instances they confer key qualifications, transferable skills and knowledge or impart capabilities as part of project work. In the last instance these must not be related directly to certain occupational activities or standards of qualification.

Ad d) Structuring the curriculum

---

[6] See, particularly, BBJ-Consult Info III/93: "Qualifizierung in Portionen - Neue Konzepte beruflicher Weiterbildung im Europäischen Vergleich", Berlin 1993

The designers of module curricula and the various national approaches can be classified in two groups:

- the "designers" who divide existing, well known curricula in to modules, e.g. in the Netherlands and

- "designers" who develop completely new modules and then attempt to built up a complete module or programme, e.g. in Scotland or in Spain.

Another distinguishing feature is the fact that the module is either regarded as primarily a teaching unit or learning process and as relating to certain learning goals and/or skills in which goals and form of delivery are not identical. In the latter case, as evidenced by the United Kingdom, various forms of delivery are used (school, company or a combination of both) to attain the learning goals. Only the result is assessed. This type of module is outcome-based and provides a large degree of flexibility in delivery but requires evaluation and performance control which is largely independent of the form of delivery, as in the form of assessment centres in the United Kingdom or where training and professional bodies form the existing structure.

All approaches towards modularisation are to be viewed as closed related to reforms in teaching and learning methods, i.e. there is a clear trend towards closer linkage of goals and content or methods. This is the only means of maintaining certain quality standards[7].

7. Standardizing and certifying modules

In countries such as Spain and the United Kingdom where the vocational training system is being rebuilt or completely restructured we are witnessing a general standardization of modules valid throughout the country and which distinguish the whole system[8]. They replace more comprehensive or nationally recognized vocational standards or curricula comprising complete training

---

[7] See ISO-Norm 9000 etc.

[8] Handley, D.: Das reformierte Berufsbildungssystem in Grossbritannien - Stellenwert der modularen Ausbildung für die Qualifizierung Erwachsener" in BBJ-Consult info III/93, p.27ff

programmes.

In the other Member States modular systems are more limited to particular pilot groups or innovative and pilot projects and do not intend to or cannot restructure the overall system. In these countries there is debate which could lead to modularisation in the sense discussed above.

While in the first countries cited above there is a closed, graduated certification of individual modules, in the other countries successful participation in courses is certified without moulding any form of occupational access.

This shows clearly that the value of modules in relation to the labour market and/or continuing and further training differs greatly depending on whether standardisation and/or national certification is the exception or the rule.

8. The modular system and continuing training

Should continuing training, further training and retraining be modularised both inside and outside the company?

In the current process of systematization of continuing training and in order to render the continuing training offer more transparent, debate in the Member States is centred on the issue of standardisation and certification arises in relation to a virtually unavoidable modularisation of the structure of the training offer.

Deregulation of rigid systems of vocational training would be the result of a continuing and further training market which is given free rein in its growth. As a consequence:

- the continuing training offer, regardless of whether or not it is in a modular form, is neither coherent nor transparent and neither user, participant or public body as the main funder obtain clear quality standards;

- from the perspective of those recruiting trainees when they have completed courses, i.e. companies and employers, the results of continuing training can scarcely be convincing as long as contents, methods and goals attained are not determined jointly with the latter;

- those delivering further training, teachers and trainers cannot improve their professional skills or deliver training of higher quality as their work lacks the required continuity.

Throughout the EU continuing training is in the process of becoming modular in form. This is increasing very rapidly without prior agreement being reached between the stakeholders in the training systems, the social partners, professional associations and trade unions and the fairly centralised competent state bodies on the framework in which this should take place. With state invention in this area one should not further put at risk what one does not want to jeopardize, i.e. valued structures of occupational standards, training standards and recognized quality standards[9]. A laissez-faire approach would undermine these with negative consequences for all concerned.

The ISO Norm 9000 already cited increases the transparency of the processes and goals of in-company training efforts and aims to provide those purchasing products and services with certain guarantees.

Even if these norms, and this is by no means certain, would lead to broader application and assurance of quality standards of certain products and services, they have little validity for participants in training courses taking the example of the individual company or product.

9. Concluding remarks and summary

Education, training and skills acquisition primarily raise the standards of skills that can be transferred

---

[9] See Kloas, P.W.: "Modulare Weiterbildung - Zur Kombination von Beschäftigung und Qualifizierung mit dem Ziel anerkannter Berufsabschlüsse" in BBJ-Consult Info III/3 p. 8 ff.

and provide trainees with occupational or geographical mobility, i.e. they ensure free choice of occupation and workplace, social advancement. They provide at least material and social security and ensure that individuals do not become addenda to a machine or a production process.

More than ever today there is a need to train workers to become independent, creative and active participants in the social and economic development process to which they contribute of their own accord, to jointly foresee new challenges and working autonomously within a team to develop and implement solutions. Modules and modularisation, which are usually regarded as short-term adaption to new challenges and focus on specific workplaces and situations do not go far enough when not embedded in an overall training and occupational concept.

The (co-)involvement of current and future skilled workers is an indispensable skill to be promoted for all employees at every level in the corporate and social hierarchy in view of the global challenges, the internationalization of markets, increasing differentiation of customer wishes, in view of the increased flexibility and complexity of products and services.

How can such skills be delivered if, as is the case in a rigid modularisation and standardisation of modules in the absence of an overall training and education concept, emphasis is placed on a rigid occupational profile and not only an overall occupational, training and educational profile. Although this may not be always attainable for a number of reasons it should be a criterion for political, educational and organizational action.

In the process of modularisation a certain standardization seems essential particularly in regard to continuing training. This can adapt to the very different educational levels, work and social experience of the participants and their claims to acquiring recognized skills and to a high degree of transparency in the quality training offer can be met.

There is a need for caution in premature modularisation of initial vocational training as seem to be the priority issues in Spain and the United Kingdom. This can only be a transitional phase on the road to a coherent system of vocational training as witnessed particularly in France, Germany, the Netherlands, Denmark and Luxembourg.

Obviously here the current process of modularisation of adult and continuing training will have implications for initial training which will limit itself increasingly to delivering transferable skills and to their application to specific areas.

The deepening and upgrading of practice-related technical skills can be left to continuing training which must be accessible to all and not only to small privileged groups or those threatened by unemployment. It is no coincidence that guaranteeing the right of access to continuing vocational training has assumed a prominent position in the European debate on vocational training issues[10]. The social partners and stakeholders are called upon further to stake this justified claim in a tangible and realistic manner.

To summarize it should be stressed:

Modularisation of vocational training can by no means replace systematic comprehensive initial training but can supplement it. In all Member States of the European Union modules will, however, be an indispensable characteristic for continuing training in the course of its systematization.

To ensure quality standards and to provide a rich offer of recognized modules, the individual Member States will be compelled with due regard to the European dimension to create a political framework as modules are extended or the modularisation process becomes more generalized. At the same time the accreditation and certification systems and processes will have to be assessed with the aim of making these more specific and of ensuring that the modules really become individual elements of the system.

---

[10] See White Paper

CEDEFOP - European Centre for the Development of Vocational Training

Vocational training in Europe:
Towards a modular form?
Burkart Sellin
CEDEFOP Berlin

CEDEFOP panorama

Berlin: CEDEFOP - European Centre for the
Development of Vocational Training, 1994

1st edition 1994 - 20 pp. - 21,0 x 29,7 cm

DE, EN, FR

free of charge - 5046 EN -

panorama

CEDEFOP

European Centre for the Development of Vocational Training
Jean Monnet House, Bundesallee 22, **D-10717 Berlin**
Tel.: 49-30+88 41 20, Fax: 49-30+88 41 22 22,
Telex: 184 163 eucen d

The term "modularisation" is a provocative one for some, while others see in it the opportunity to reform vocational training and renew curricula in both initial and continuing vocational training given the rapidly changing demands of training participants, companies and the labour market. Does the modular system make vocational training more efficient, less centralized and more capable of catering for individual needs as its protagonists claim? What are the preconditions for building upon initial attempts in this direction and for promoting their incorporation in the existing vocational training systems in the EU Member States? This paper attempts to find answers to questions such as these.

5046